Joint Legislative Study Committee on the Electrification of Vehicles

Blue Bird Corporation – October 25, 2022

Where did we start?

BLUE BIRD

Georgia Grown

- Founded in 1927 by Albert Luce in Fort Valley, Georgia
- 2,000 employees
- Over 550,000 built
- ~180,000 still on the road today
- Annual volume ~11,000

BLUE BIRD®


BLUE BIRD NO. 1
1927


SCHOOL BUS
1937


SCHOOL BUS
2021


BLUE BIRD ALL AMERICAN NO. 1
BUILT 1948
1948


SCHOOL BUS
BLUE BIRD
1987


SCHOOL BUS
2021


SCHOOL BUS
DIVINE PEACE
1982
LUTHERAN SCHOOL
2003


2010


SCHOOL BUS
2021

BLUE BIRD®

A History of Innovation

- 1st school bus body built utilizing steel instead of all wood (1927)
- 1st all-steel body (1937)
- 1st school bus manufacturer to build its own chassis (1952)
- 1st Type D Compressed Natural Gas school bus (1991)
- **1st All-Electric powered school bus (1994)**
- 1st OEM propane-powered school bus (2008)
- 1st Commercial School Bus V2G Deployment (2021)

Blue Bird – First to Market with EV

…in 1994!

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Where are we now?

BLUE BIRD

Blue Bird
The Alternative Power Experts

OVER

30,000

ALT POWER SCHOOL BUSES

OVER

3000

SCHOOL DISTRICTS

POWERED BY PROPANE

POWERED BY GASOLINE

POWERED BY CNG

POWERED BY ELECTRICITY

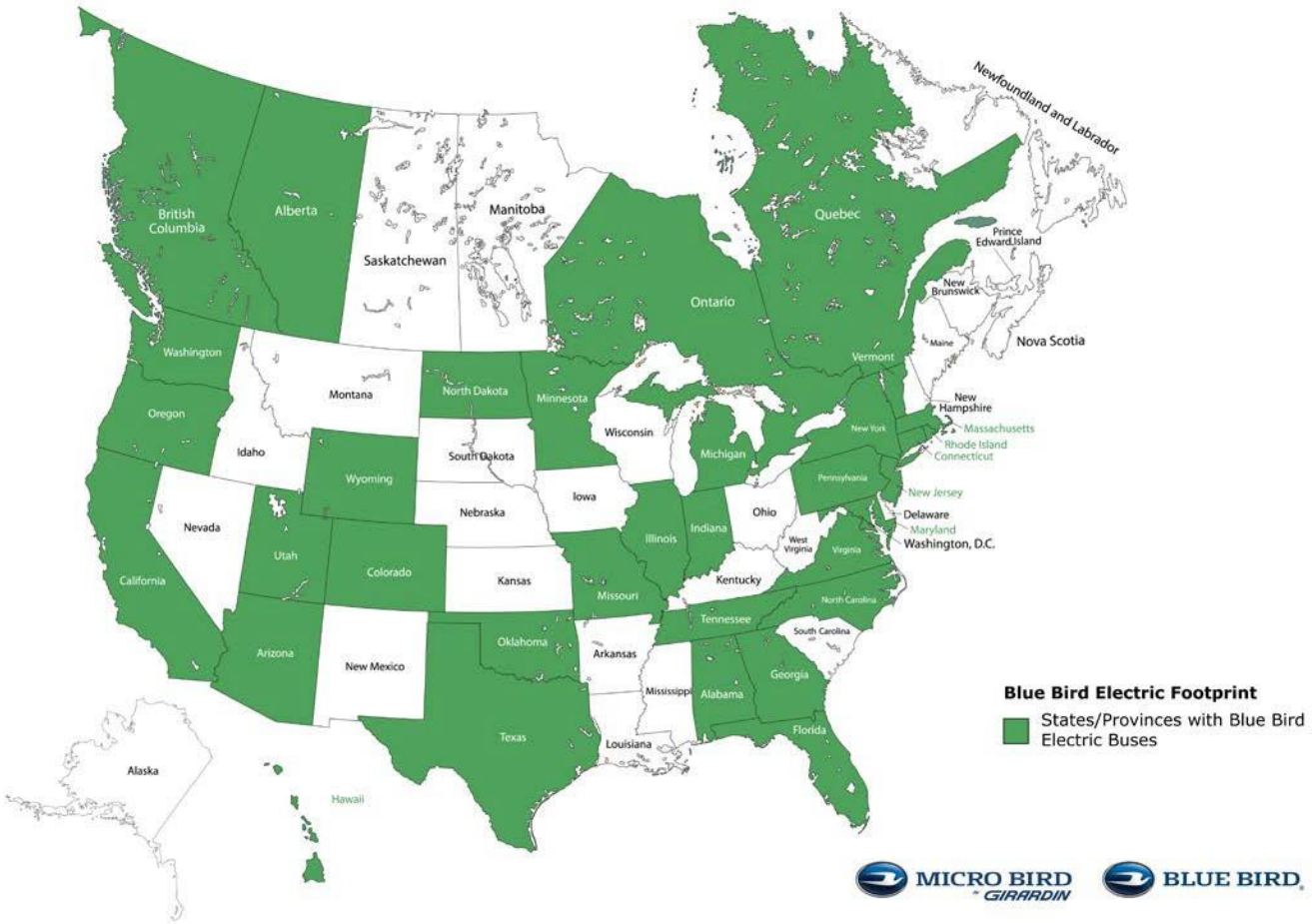
BLUE BIRD®

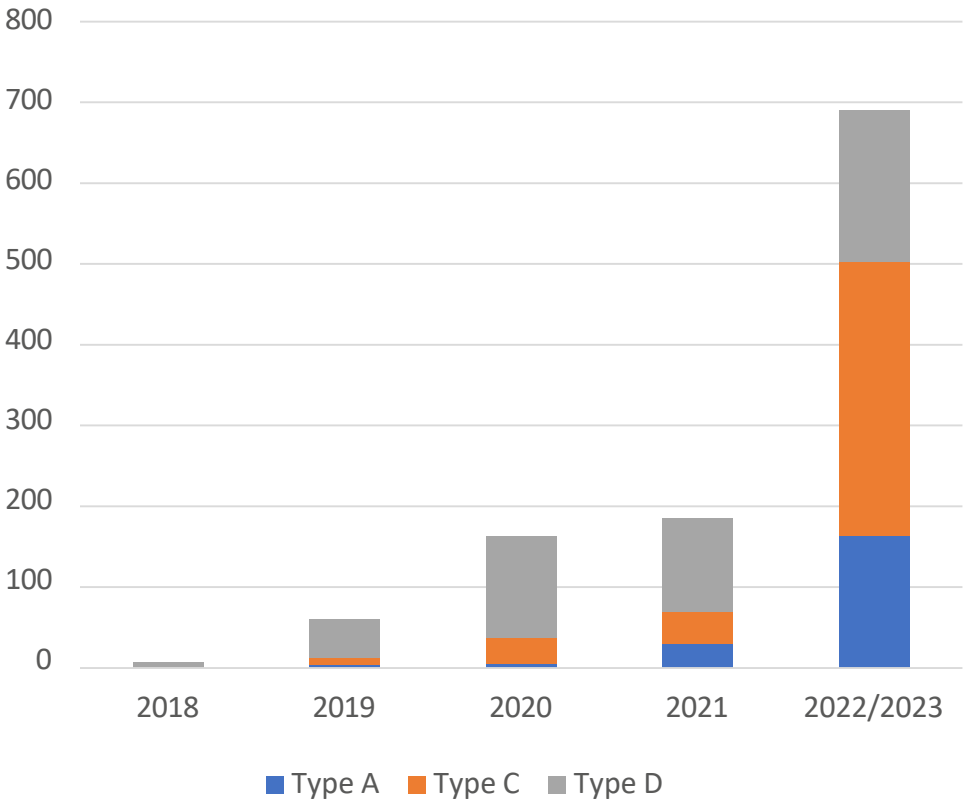
Electric Recharged

- **2016**
  - Received a $4.9MM grant from US Department of Energy (US DOE) for development and commercialization of high power V2G school buses.
- **2017**
  - Launched current iteration of the Blue Bird electric bus at the STN Expo in Reno, NV
- **2018**
  - Delivered first electric-powered school buses to customers in California
- **2021**
  - Only manufacturer to produce and deploy electric school buses in Type A, Type C, and Type D
  - Only manufacturer to offer standard CCS1 connector to allow both Level 2 and Level 3 charging
  - V2G capability standard on all of our Electric Buses
  - **Over 1,200 EV sales in 31 states and 4 Canadian Provinces!**

BLUE BIRD®

Deployments and Growth





BLUE BIRD®

Benefits of Electric School Buses

ZERO EMISSIONS
Cleaner air for our children

GRANT FUNDS AVAILABLE
Bus and Infrastructure

REDUCED MAINTENANCE COSTS
Fewer and much simpler parts = substantially less maintenance

OUTSTANDING PERFORMANCE
Drive motor max torque and power at very low RPM's

QUIET OPERATION
Less sound pollution in neighborhoods, and safer driving

VEHICLE TO GRID TECHNOLOGY
V2G technology allows the sale of energy back into the grid

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Diesel vs Electric

	Diesel	Electric
Power	300 HP	315 HP
Torque	2,046 ft-lb (1st gear @ max rpm)	2,400 ft-lb (instantaneous)
Acceleration (0-60 mph)	45 s	20 s
Fuel Cost / mile	$0.41	$0.22*
Fuel Cost / year	$4,941	$2,628
GHG Emissions / year	23 tons	Zero
Maintenance	Engine Oil Change Transmission Fluid Change Fuel Filter Change DEF Fluid & Filter Air Filter Change	Coolant Flush

*Using $0.1413/kWh average rate in Georgia

Where are we going?

BLUE BIRD

EPA Clean School Bus Program

- Bipartisan Infrastructure Law allocated $5 billion specifically for Clean School Buses over next 5 years
- $375k (priority) or $250k (non-priority) per bus
- $20k (priority) or $17k (non-priority) per bus for charging infrastructure
- Districts can apply for up to 25 buses

- First round of grant recipients being announced tomorrow.
- Initial tranche $965M
- Blue Bird helped 34 school districts in Georgia apply for 304 electric and propane school buses

BLUE BIRD

Blue Bird Energy Services

END OF LIFE

Recycling program for used or damaged batteries

SERVICE & SUPPORT

Dealer network and EV Powertrain provider supports and services bus throughout its lifetime

TELEMATICS

Tracks bus performance, diagnostics and more

DEPLOYMENT

Build and deliver buses, as well as offer driver, safety and technician training services

ASSESSMENT

Determine what bus fleet best fits the customer's needs based on terrain, climate and route planning

FUNDING

Identify and support customers in obtaining financing through grants, tax breaks, subsidies or lending services

INFRASTRUCTURE

Assess customer infrastructure needs and support energy sourcing and infrastructure installation

V2G/V2X

Provide V2G/V2X capable buses enabling customers to generate revenue and harden their infrastructure

Why does this matter?

- Impact in Georgia
  - Engaged in global supply chain
  - Leveraging experience from Ford, Cummins, and other Fortune 500 companies
  - Training workforce for high skilled jobs associated with EV industry
  - Georgia become national leader in EV manufacturing
- Electrification of vehicles is gaining momentum nationwide
  - School buses have the ideal duty cycle for electrification
  - School buses can also be used for electrical grid stabilization through V2G and provide power for emergency response
- Will require investment in infrastructure to support growing charging demand

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Thank You!

BLUE BIRD®